



Heat Shield Paves the Way for Commercial Space

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NASA Technology

- ◆ The Stardust spacecraft required a lightweight heat shield that could withstand extreme temperatures during Stardust's reentry in Earth's atmosphere
- ◆ The PICA heat shield, made of a ceramic carbon substrate, allowed Stardust to return successfully to Earth in 2006



Technology Transfer

- ◆ SpaceX won a contract to develop a spacecraft to transport cargo to and from the International Space Station (ISS)
- ◆ Working with Agency engineers, the company used materials and designs from the PICA heat shield, and renamed it the PICA-X for use on its Dragon capsule

Benefits

- ◆ The US can once again transport cargo to and from the ISS using domestic spacecraft
- ◆ SpaceX is retrofitting Dragon to transport humans into space
- ◆ SpaceX's Falcon 9 rocket is scheduled for 50 planned launches of both private and government-run satellites through 2017